

Claims

1. A clutch and torque converter assembly which consists of an oil pump that is rotating by a torque energy source; Wherein said pump consists of:

- A driven gear, defined as a sun gear;
- At least one drive gear defined as a satellite gear;
- A housing to contain said gears;
- An oil inlet side and an oil outlet side, hereby defined as the high and low sides;
- An oil passage and blocking means to control oil drainage from said high to low sides;
- An axel to pivot satellite gear, freeze connected to said pump;

Wherein said oil passage and blocking means control the motion and speed of the rotation of said gears relative to each other;

Wherein said pump and satellite gear are driven by torque energy source; and

Said sun gear is the torque output - connected to a car wheel for example; and

Said satellite gear and pump rotate around said sun gear;

Wherein said sun gear can be in at least three different modes:

a) Sun Gear Freeze Mode:

- The sun gear is not rotating about its own axel;
- Said satellite gear is rotating about its own axel;
- Sun gear RPM is zero;
- Oil pressure is equal at the high and low sides;
- Oil is being fully-drained from the high side to the low side;

b) Sun Gear Full-Motion Mode:

- The sun gear is rotating about its own axel;
- Said satellite gear is not rotating about its own axel;
- Sun gear RPM is equal to the pump and satellite-gear-axel RPM;
- Oil pressure is higher at the high side than at the low side;
- Oil is being fully-blocked from draining from the high side to the low side;

c) Sun Gear Semi-Motion Mode:

- The sun gear is rotating about its own axel;
- Said satellite gear is rotating about its own axel;
- Sun gear RPM is lower than the pump and satellite-gear-axel RPM;

- Oil pressure is higher at the high side than at the low side;
- Oil is being semi-blocked from draining from the high side to the low side;

Wherein said oil passage and blocking means controls the pressure difference between said high and low sides, so that when there is no pressure difference, the sun gear is in Freeze-Mode; and

When the oil passage is fully blocked, pressure difference builds up to the maximum, resulting in the sun gear's Full-Motion-Mode; and

When only some oil passage is allowed, only some pressure difference builds up between the said high and low sides, producing the sun gear's Semi-Motion-Mode.

2. A torque converter assembly as in claim 1 that further consists of:

- A transmission housing to consist said torque converter,
- A gear box that consists of a carriage,
- An input shaft,
- An input gear,
- At least one gear being in touch with the input gear, hereby defined as 'first satellite gear',
- An oil pump housing,
- A perforated driven gear disposed in the center of said pump hereby defined as a 'sun gear',
- And blocking means to control the oil pressure at the high side and the low side of said pump, and
- At least one drive gear, disposed in said pump, hereby defined as a 'second satellite gear',
- A shaft to connect first and second satellite gears, and
- An output shaft which has contact with said second satellite gear which is driven by said first satellite gear which is driven by said input gear;

Whereby if said input shaft and said input gear will rotate clockwise, it will rotate the first satellite gear, counterclockwise;

And said first satellite gear is connected to said second satellite gear in a way that said first satellite gear will rotate the second satellite gear together;

And said second satellite gear will rotate said sun gear in said pump, to have selective communications with said sun gear in a way that the first

communication would be to roll on said sun gear;

And the second is to be affixed to it and third is partially roll on it and partially affix it together.

3. A clutch and torque converter assembly as in claim 2

Whereby the means to control the high oil pressure between the driven sun gear side and the second satellite gear are mounted in said second satellite gear.

4. A clutch and torque converter assembly as in claim 2

Further consists of intermediate gears between the drive gear and the first satellite gears in order to change the rotation direction of said first satellite gear.

5. A clutch and torque converter assembly as in claim 2

Whereby said second satellite gear consists a cylindrical boar in the center of said gear and said gear is perforated in a way that between each of those gears teeth at its root diameter there is an oil passage that runs from that root diameter to the wall surface of said cylinder whereby whenever said cylinder is not blocked by said blocking means all said boars can communicate via oil connection

6. A clutch and torque converter assembly as in Claim 5

Whereby said sun gear consists of a cylinder in its center and bores from its root diameter to the center of said sun gear cylinder and

Said sun gears' cylinder in the center consists of a means to control the size of the exposure of said bores,

7. A clutch and torque converter assembly as in Claim 2

Whereby the communication between first satellite gear and the input gear are made via at least one chain.

8. A clutch and torque converter assembly as in Claim 6

Whereby the means to control the size of the exposure of said bores are:

- A selector type pins that are controlled by means that are controlled automatically by a transmission shifting governor, or a computer, or a clutch pedal, manually activated by the vehicle driver

9. A clutch and torque converter assembly as in claim 6;
whereby said blocking means are selector type of pins that are positioned in said perforated gear's cylinder in order to make selective communication between the boars in said cylinder in a way that if said selector pin covers said boars the communication between the boars will be cut and vice versa.
10. A clutch and torque converter assembly as in claim 1;
Whereby said blocking means are one way valves that disposed in said boars which is in said perforated gear and said one way valves are kept open to allow oil passage between the oil outlet of said pump to the oil inlet of said pump via the boars which are in said cylinder which is disposed in said perforated gears
And said one way valves will reduce the passage of said bores or close it upon the centrifugal force that acts on said one way valve means upon the RPM rotation of said pump and upon the position of said satellite gear relative to said sun gear
In order to let no oil pressure to be build up in said pump in low given revolutions of said pump and
To let oil pressure to be build up at the higher given RPM at said oil outlet of said pump in order to lock said pump to said sun gear in a way to freeze the gears one to the other in order to rotate the sun gear with said pump.
11. A clutch and torque converter assembly as in claim 2;
whereby said blocking means are one way valves that disposed in said boars which is in said perforated gear and said one way valves are kept open to allow oil passage between the oil outlet of said pump to the oil inlet of said pump via the boars which are in said cylinder which is disposed in said perforated gears
And said one way valves will reduce the passage of said bores or close it upon the centrifugal force that acts on said one way valve means upon the RPM rotation of said pump and upon the position of said satellite gear relative to said sun gear
In order to let no oil pressure to be build up in said pump in low given revolutions of said pump and
To let oil pressure to be build up at the higher given RPM at said oil outlet of said pump in order to lock said pump to said sun gear in a way to freeze the gears one to the other in order to rotate the sun gear with said pump.

12. A motor that consists of a clutch and torque converter based on claim 2;

That consists of a crank shaft which is connected to a fly wheel and onto said fly wheel is mounted on an oil pump housing which consists of an oil inlet side and oil outlet side And to said pump is anchored at least one axel to be a pivot for an oil pump gear which is forming a satellite gear and one sun gear which is housed in the center of said pump relative to the crank shaft whereby the satellite gear can rotate surrounding said sun gear and also said satellite gear can rotate on its pivot pin

And in the center of one of the gears there is a boar to form a cylinder

And said satellite cylinders gear is perforated in a way that all the root diameter teeth are connected via oil passages among all those teeth whereby all the oil pressure build up at the pressure side of said pump can be reduced to the inlet side of said pump subject to a given RPM of said motor

And an oil pressure control means dispose in said perforated gear to reduce or to increase the pressure at the pressure side of said pump in order to block the rotation of said pump relative to said sun gear

And said pressure control means are influenced by the sun gear rotation speed output to the effect that the higher RPM of said sun gear gets, the more pressure build up in said pressure side of said pump in order to create stronger grip between said satellite and said sun gear, in order to equalize the motor torque input to said sun gear torque output.

13. A clutch and torque converter assembly as in Claim 12;

Whereby the perforated gear is the sun gear instead of the satellite gear.

14. A clutch and torque converter assembly as in Claim 1;

Whereby an electric activated means will be deployed in order to close or open the oil movement between the high and the low pressure side of said pump

15. A clutch and torque converter assembly as in Claim 7;

Whereby an electric activated means will be deployed in order to close or open the oil movement between the high and the low pressure side of said pump

16. A clutch and torque converter assembly as in Claim 2;

Whereby said torque converter assembly consists of a means to block the rotation of said carriage relative to said transmission housing and to anchor the pivot pin of said second satellite gear relative to said transmission housing in order to induce said second satellite gear to rotate the sun gear into reverse direction relative to said input shaft.

17. A clutch and torque converter assembly as in Claim 2;

Further consisting of an independent oil pump;

A one way roller clutch;

Whereby said independent clutch will be installed on said transmission housing and be driven by said main input shaft;

And said one way roller clutch will be installed between said input shaft and said torque source;

Whereby the inner racer of said one way clutch will be mounted on said input shaft and said outside racer will be mounted on said input source;